ORGANIC PRACTICES FOR LAWN GROWERS IN HARPSWELL

We know that what happens on land sooner or later ends up in the water nearby, particularly as this applies to the use of pesticides and fertilizers spread on our lawns. Now there are viable ecologically sound, non-toxic lawn care alternatives that assure a self-sustaining safe environment. Such a program is outlined below.

1. Proper Foundation

- **Design considerations** - define types and degrees of uses such as a tot lot swing set play area, or a verdant staging for flowerbeds. Location and size of area- taking into consideration maintenance, cost, best use of the land, amount of traffic and, in particular, non-grass alternatives when located near a body of water. Not all areas are capable of growing grasses
- **Environmental considerations** - degree of slope (1-2% away from house is best), erosion and compaction problems, surface and subsurface drainage, exposure to sun (6 hours required), soil depth between 6" - 10"
- **Type of lawns by age** for differing maintenance requirements- new, young (under 10yrs) and mature (over 10 yrs)
- **Choice of grass seed mix** to match environmental shortcomings (see #5 p. 2)
- **Soil test** for fertility and pH levels (6.5 ideal)[1] (see #4 p. 2)
- **Soil amendment** (see #4 p. 2)

Now you are ready to start. **Think first, Spray last.**[2]

2. Watering

- Irrigate **slowly and deeply** to promote deeper roots
- Amount **1.0"- 1.5" per week** during the growing season, including rain
- Frequency: **Once per week** during the growing season. Reduce when hot and dry.
- Time between **6:00 –10:00 AM** to avoid fungal and other infestations
- Do not water if ground is saturated by rain
- In a summer drought, consider inducing a state of dormancy by withholding water
- Exception to above; during the first 3 weeks after sowing grass seed, the ground must remain moist at all times. Spray with a fine hose 3 times a day to retain a damp surface

3. Mowing

- Frequently, at least weekly during active growth. Reduce during hot/ dry summers. Rule of thumb is to **cut little and often**, only removing the **top third** of the blade height each time in order to maintain grass vigor.
- Only mow when grass is dry. Afternoon is best

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[1] pH is important because certain nutrients require specific acid or alkali ranges in order to become available to plants. Maine soils tend to be acidic. (A level less than 7.0)
[2] Maine Dept. of Agriculture, Board of Pesticide Control

- Height during regular growing season: **3+"** to crowd out and shade weeds
  - Exception:: New grass - mow to a height of 1.5" for the first 3 cuts
- Additional exceptions: First mow of season- 2", and last mow of season - 2'' high to prevent snow mold
- Keep mower blades sharp to reduce disease.
- **Leave all clippings in place. This free fertilizer decomposes in the turf**
- **Ideally, mow with battery run mulching lawn mower**

Note: Wildflower meadows can be sustained by mowing one to two times per year and **Hay fields** are best mowed when growth is vigorous and before wilting occurs

4. Fertilizing[4]

There are two basic approaches to feeding plants. The first is to provide synthetic nutrients in soluble form that plants absorb directly and quickly. The disadvantages are that approx. 65%, unabsorbed by the plants, ends up in our oceans, soil composition remains unchanged and the 'flush' of rapid growth weakens the grass. The favored approach is to fertilize the **soil with slow-release, non-soluble organic matter** that promotes microbiological activities. These provide nutrients throughout the growing season that maximize plant vigor, promote a balance of good and bad bugs, and avoid water runoff

- For mature lawns, **only grass clippings** are required, unless indicated by a soil test. This free fertilizer provides, during the growing season, the equivalent of 2 lbs. of synthetic fertilizer for every 1,000 sq ft. (manufacturers' recommended yearly application)
- For new and younger lawns, spread **½ " layer of high-quality composted material** over the entire lawn once a year in late summer, or twice a year if soil is shallow or of poor quality
- For new lawns, if a soil test reveals need for nitrogen, apply **only** slow release, **phosphorus-free nitrogen** formulas at moderate application rates (about half what the directions suggest) such as ***Pro-Booster,*** a **10- 0- 0** ratio which is derived from vegetable and animal protein meal. A 50 lb. bag covers 5,000 sq. feet. Available at: www.dirtworks.net & www.norganics.com .
- Nitrogen should **be applied in the fall** only, when weed growth has slowed, and spread at a rate of 1 to 2 lbs. per 1,000 sq ft. **The rule of the game is to avoid phosphorus as it is contained naturally in Maine soils.**
- If the pH needs adjustment, on new or younger lawns, apply calcium rich lime such as pelletized dolomitic limestone in the fall.
- **Compost tea –** Prepare by infusing 1 part organic matter in 5 parts water and steeping for several days. This soluble fertilizer can be applied to newly seeded grass patches for a growth boost. An alternative is three (3) tablespoons of molasses to one (1) gallon of water

[4] Book: *The Complete Compost Gardening Guide*- all about feeding the soil. Available at www.fedcoseeds.com Catalog #9652

Note: Lawns do not need extra phosphorus (P) or potassium (K) and too much nitrogen (N) makes grass vulnerable to diseases, pests and loss of drought resistance

5. Choosing the Right Seed Mix

Diversity is best: The most suitable grasses for this area are the cool-season grasses listed below-

- Perennial Ryegrass – Fast growing, low thatch, good wear/ tear, poor in drought, but best for spot seeding. (use fine blade varieties)
- Tall Fescue- Slow growing, low thatch, good wear and tear, course texture, heat tolerant and can grow in reduced sun hours (4 – 6)
- Fine Fescue – Average growth, poor wear and tear, fine texture, excellent shade tolerance
- Kentucky Blue Grass – Though it is tolerant to cold, it is intolerant to shade, slow to germinate, produces thick thatch, and demands lots of fertilizer and water. (The most common grass used for sod.)

The four formulas, listed below, vary in accordance with type of lawn, shade factors, sun hours, heavy traffic, poor soil, compaction, erosion, poor drainage and the degree of maintenance undertaken. All are proven to do well in our area.

- **YardScaping/ BayScaping Mix** (top recommendation, locally available)
  Consists of 40% Creeping Red Fescue (endophyte enhanced)[5]
  30% Trifecta Perennial Ryegrass (endophyte enhanced)
  20% KenBlue Bluegrass,
  10% Chewings Fescue
  Available: www.allensterlinglothrop.com (207) 781-4142

- **Wildflower Mix** of small flowers, low growing strawberry clover, and special dwarf perennial ryegrass
  Consists of 40% PR8820 dwarf Perennial Ryegrass
  40% Eureka Hard Fescue
  10% Assorted Flowers
  5% White Yarrow
  5% Salina Strawberry Clover
  Available: www.protimelawnseed.com (503) 239-7518

- **No Mow Mix** Dense turf. Biologically reduces weed growth, minimizing lawn maintenance dramatically
  Consists of 25% SR5100 Chewing Fescue25% Azay Sheeps Fescue
  12% SR3100 Hard Fescue

[5] It is a fungus, within the grass plant, secreting substances that repel insect pests. Available in Fescue and Ryegrass varieties only

12% Scaldis Hard Fescue
12% Creeping Red Fescue
12% Dawson Red Fescue
Available: www.prairienursery.com (800) 476-9453

- **Tuff Turf** Disease and insect resistant. Tolerates acid soil. Great color and texture
  Consists of 25% Masterpiece Tall Fescue
  25% Rembrandt Tall Fescue
  20% Kittyhawk SST Tall Fescue
  20% Exacta Perennial Ryegrass
  10% Bordeaux Kentucky Bluegrass
  Available: www.allenstarlinglothrop.com (207) 781-4142

Note: These four low maintenance seed recipes are recommended by **Cumberland County Soil & Water Conservation District: www.cumberlandswcd.org**

6. Controlling Diseases and Pests[6]
Specific problems require specific treatments. Therefore monitor, identify and evaluate the extent of the problem first. Most pests have short lives.

New approaches to pest and disease control stress **preventative measures** in conjunction with **Biocontrols**[7] that treat the problem without damaging the environment. The two together comprise a program called **Integrated Pest Management**[7] classified by three interrelated practices:

- **Best Garden Practices** that discourage pests, prevent plant **diseases** and improve plant health and vigor
- **Physical Practices** that manipulate the plant environment by introducing light or sound, and mechanical means such as traps, barriers, pruning and hand picking
- **Biological Use of Living Beneficial Organisms**[8] that naturally suppress **pests** by targeting and infecting specific grubs.

Why no Pesticides?

- Applications of synthetic chemicals kill good insects as well as bad ones.

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[6] Book: *The Organic Gardener's Handbook of Natural Insect and Disease Control* An alphabetical guide to identify and treat insect and disease problems in the garden. Available at: www.wedcoweeds.com Catalog # 9787

[7] Source: www.greenmethods.com

[8] The control of pests (insects, mites, weeds, plant diseases) by the application of predators, parasites or pathogens (bacteria, fungi, viruses) that attack, either singly or in concert, pests in their differing vulnerable stages

- They upset the lawn's natural ecosystem leaving grasses defenseless when the next wave of attacks hit
- Pesticides also affect the soil bio-organisms' **natural abilities** to combat pests and diseases
- They pose a threat to water purity via runoff, an important consideration for all Harpswell residents

Got adult bugs?
Hand crunch, use traps and/ or baffle barriers
Got underground white larval bugs that eat your grass roots?
Utilize live biological controls such as **Hb Nematodes** (cruisers)
Got burrowers?
Vertebrate predators such as moles are indicators of grub infestation. They are after the bugs, Get rid of the bugs and – Voila!
Got diseases?
Practice **Integrated Pest Management Controls**

Refer to**:** ***Turf Pests and Diseases, and How to Treat Them***. A list of suggestions, applications and directions utilizing **Integrated Pest Management Practices[9] (IPM)** that can be applied by home gardeners without fear of any harmful effects

.**Conclusion:**
This **Six Point Best Garden Program** is environmentally sound and designed to out-perform previously accepted lawn programs relying on "weed and feed" applications. It assures a thick, healthy green appearance, worthy of any neighbor's envy. This program may be followed to the letter or reduced to simply mowing when needed and leaving the clippings in place. Avoid watering in the hot dry months to conserve water, neglect to aerate and rake thatch, ignore a few weeds and just remove fall leaves and winter debris. The degree of labor depends on one's cosmetic preference and energy level. In either event your lawn and its environment will be safe for children and pets, including habitats for lobsters and clams - mainstays of Harpswell's economy.

[9] **IPM** is an effective, environmentally sound, comprehensive approach to controlling pests and diseases. It incorporates a four-tiered approach: Avoidance practices by applying: ***6 Point Best Garden Program.*** It releases protectants, such as biological organisms that disrupt mating habits, regulate growth and infect cycles of insect life. It involves the release of natural predators and it utilizes mechanical trapping, noise and light devices.